

PROPOSED STANDARD FORM OF
AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES

THIS AGREEMENT made and entered this _____ day of _____, 2022 by and between the City of Pueblo, a Municipal Corporation (hereinafter "Owner") and Brown and Caldwell, Inc., a California Corporation, 1697 Cole Boulevard, Golden, Colorado 80401, a professional engineering firm (hereinafter "Engineer") for Engineer to render certain professional engineering and related services for Owner in connection with **Bid 18-087, Project Southern Colorado Clinic Sanitary Sewer Outfall Sewer Crossing Design**, hereinafter referred to as the "Project." In consideration of the mutual covenants hereinafter set forth, the parties agree as follows:

SECTION 1. GENERAL.

1.1 Engineer shall satisfactorily perform professional engineering and/or construction management] services for all phases of Project indicated below by mark placed in the appropriate box or boxes:

- Study and Report Phase
- Preliminary Design (Schematic) Phase
- Final Design Phase
- Construction Documents & Bidding Phase
- Construction Phase

Upon completion of any phase, Engineer shall not proceed with work on the next phase, if any, until authorized in writing by Owner to proceed therewith.

Such services shall include all usual and customary professional engineering services and the furnishing (directly or through its professional consultants) of customary and usual civil, structural, mechanical, electrical engineering, environmental, architectural, construction management and planning services as generally stated herein and as more specifically set forth in Appendix A. Engineer shall also provide any landscape engineering, architectural, surveying and geotechnical services incident to its work on the Project.

1.2 In performing the professional services, Engineer shall complete the work items described in Appendix A – Scope of Services and as generally identified in Section 2 of this Agreement which are applicable to each phase for which Engineer is to render professional services. In the event of a conflict, the Scope of Services set forth in Appendix A shall prevail.

1.3 Professional engineering services (whether furnished directly or through a professional consultant subcontract) shall be performed under the direction and supervision of a registered engineer in good standing and duly licensed to practice in the State of Colorado. Reproductions of final drawings for construction produced under this Agreement shall be the same as at least one record set which shall be furnished to Owner and which shall be signed by and bear the seal of such registered engineer.

1.4 Surveying work included within this Agreement shall be performed under the direction and supervision of a registered Professional Land Surveyor in good standing and duly licensed to practice in the State of Colorado. All plats and surveys produced under this Agreement shall be signed by and bear the seal of said Professional Land Surveyor.

1.5 Any architect services provided under this Agreement shall be performed under the direction and supervision of an architect licensed to practice architecture in the state of Colorado.

SECTION 2. ENGINEERING SERVICES.

2.1 **Study and Report Phase.** If Engineer is to provide professional services with respect to the Project during the Study and Report Phase, Engineer shall perform the following unless otherwise indicated in the attached Scope of Service (Appendix A):

- (a) Consult with Owner to determine his requirements for the Project and review available data.
- (b) Advise Owner as to the necessity of his providing or obtaining from others data or services of the types described in paragraph 2.2(c), and assist Owner in obtaining any such services.
- (c) Provide special analyses of Owner's needs, planning surveys, site evaluations and comparative studies of prospective sites and solutions.
- (d) Identify and analyze requirements of governmental authorities and regulatory agencies involved in approval or permitting any aspect of Project.
- (e) Provide general economic analysis of Owner's requirements applicable to various alternatives.
- (f) Prepare a Report with appropriate exhibits indicating clearly the considerations involved and the alternative solutions available to Owner, and setting forth Engineer's findings and recommendations with opinions of probable costs.
- (g) Furnish 3 (three) copies of the Report and present and review it in person with Owner.

2.2 Preliminary Design (Schematic) Phase. If Engineer is to provide professional services with respect to the Project during the Preliminary Design Phase, Engineer shall perform the following unless otherwise indicated in the attached Scope of Service (Appendix A):

- (a) Consult with Owner and determine the general design concept and Project requirements based upon information furnished by Owner as well as any study Report on the Project.
- (b) Prepare and submit to Owner preliminary design documents consisting of final design criteria, preliminary drawings, an outline of specifications, and written descriptions of all significant features of Project.
- (c) Prepare and submit to Owner a requirements checklist of any subsurface investigation, additional data, permits, or other information and requirements which is anticipated will be necessary for the design or construction of Project.
- (d) Provide written disclosure to Owner of significant design assumptions and design risks and advantages/disadvantages inherent in or presented by design alternatives and make recommendations to Owner based thereon.
- (e) Prepare and submit to Owner a preliminary cost estimate for the Project including construction cost, contingencies, professional compensation, consultant fees, costs of land and rights of way, compensation for damages and finance costs, if any.
- (f) Engineer shall furnish 3 (three) copies of each above referenced submittal document to Owner for Owner's use, and shall review same in person with Owner.

2.3 Final Design Phase. If Engineer is to provide professional services with respect to the Project during the Final Design Phase, Engineer shall perform the following unless otherwise indicated in the attached Scope of Service (Appendix A):

- (a) After consultation with the Owner, receipt of Owner's selection of any design options and review of the Preliminary Design Documents, if any, prepare and submit to Owner final Drawings showing the scope, extent and character of the work to be performed by contractors, and Specifications describing such work and the requirement therefor. Such plans and Specifications shall comply with all applicable

building codes and requirements of regulatory agencies having any approval authority. Final design, including Drawings and Specifications, shall also comply with ADA Accessibility Guidelines (ADAAG) Manual developed by the U. S. Architectural and Transportation Barriers Board (1998) or ADA Standards for Accessible Design published at 28 C.F.R. Part 36, Appendix A, whichever is applicable. Engineer **shall include an attest statement on each record drawing sheet of final plan drawings that certifies compliance with either the ADAAG Manual or 28 CFR Part 36 Standards.**

(b) Make reasonable revisions to the Drawings and Specifications requested by Owner, informing the Owner of any change in probable construction costs as a result of such revisions.

(c) Provide technical criteria, written descriptions and design data for Owner's use, and disclose any significant risks and advantages/disadvantages inherent in or presented by design choices.

(d) Based upon Engineer's professional judgment, prepare and submit to Owner a current detailed cost estimate for the Project including construction cost, contingencies, professional compensation, consultant fees, land and right of way costs, damages and finance costs, if any.

(e) Engineer shall furnish 3 (three) copies of each above referenced submittal document to Owner for Owner's use, and shall review same in person with Owner.

2.4 Construction Documents & Bidding Phase. If Engineer is to provide professional services with respect to the Project during the Construction Documents & Bidding Phase, Engineer shall:

(a) Prepare and submit to Owner draft forms of contract agreement, general and special conditions, bid forms invitations to bid, information for bidders, forms of warranty and including any special requirements imposed upon such contracts by any federal or other funding source and by any regulatory agency. In preparing such draft forms, Engineer shall consider and incorporate, to the extent both advisable and feasible, owner's standard forms of agreement, warranty, payment and performance bonds, general conditions and selected specifications.

(b) After review and comment by Owner, prepare and submit all deliverables identified in Appendix A to this Agreement, final forms of contract agreement, general and special conditions, Drawings, specifications, bid forms, invitations to bid, information for bidders, and forms of warranty, together with any Addenda which may be required or appropriate to correct errors, clarify Drawings or Specifications or advise of changes. 3 (three) copies of these final bid documents shall be furnished to Owner. Unless otherwise specified in Appendix A, a copy of all contract documents and drawings shall also be submitted to Owner in Microsoft Word and AutoCAD (2013 or later version) format on electronic media.

(c) Make recommendations to Owner concerning the need for prequalification of equipment, vendors or bidders, and, if requested by Owner, incorporate prequalification requirements in final bid and construction contract documents.

(d) Attend a pre-bid conference with bidders to discuss Project requirements and receive requests for clarification, if any, to be answered by Engineer in writing to all plan holders.

(e) Consult with and make recommendations to Owner concerning: acceptability of bidders, subcontractors, suppliers, materials, equipment, suitability of proposed "or equals", amount of bids and any other matter involved in consideration and review of bids and bidders upon which Owner may reasonably request Engineer's advice.

(f) Prepare and periodically update a Project Schedule for Owner's review and acceptance, which shall include the schedule for the performance of the Engineer's services and a construction schedule for the components of the work, including phasing of construction, and times for commencement and completion of the several construction contracts. In the Project Schedule, the Engineer shall coordinate and integrate the Engineer's services and the Owner's responsibilities with anticipated construction schedules, highlighting critical and long lead times.

(g) Provide recommendations and information to Owner regarding the allocation of responsibilities for safety programs among contractors.

(h) Advise the Owner on Engineer's recommended division of the Project construction work into individual categories or work and separate contracts, and make recommendations as required so that the work of the several contractors is coordinated, all responsibilities have been assigned to the appropriate contract, the likelihood of jurisdictional disputes has been minimized and proper coordination has been provided for phased construction.

2.5 Construction Phase. If Engineer is to provide professional services with respect to the Project during the Construction Phase, after award by the Owner of a general contractor contracts for construction of the Project, Engineer shall:

I. Engineering Functions.

(a) Perform all duties and functions to be performed by Engineer under the terms of the construction contract.

(b) Visit the Project site, perform observations as to the progress and quality of the work and advise the Owner as to same. The frequency and level of observation shall be commensurate with the nature of the work and size of the Project, except that any specific provisions set forth in Appendix A - Scope of Services concerning the level of observation shall determine Engineer's obligation concerning level of observation.

(c) Make determinations as to whether the work is proceeding in general accordance and compliance with the construction contract documents.

(d) Promptly advise the Owner in writing of any observed omissions, substitutions, defects or deficiencies noted in the work of any contractor, subcontractor, supplier or vendor on the Project.

(e) Reject any work on the Project that does not conform to the contract documents.

(f) On request of the Owner, the construction contractor or any subcontractor on the Project, issue written interpretations as to the Drawings and Specifications and requirements of the construction work.

(g) Review shop drawings, samples, product data and other submittals of the contractor for general conformance with the design concept of Project and compliance with the Drawings, Specifications and all other contract documents, and indicate to Contractor and Owner with respect thereto, any exceptions noted, or modification or resubmittals required.

(h) Review all applications of Contractor for payment and in connection with same, issue certificates for payment to the Owner for such amounts as are properly payable under the terms of the construction contract. Each such certificate shall constitute Engineer's representation to Owner that he has made periodic observations of the Project during construction and that to the best of his knowledge, the work for which payment has been sought has been completed by Contractor in general accordance with the Drawings, Specifications and other contract documents.

(i) Subject to written concurrence by Owner, promptly render a written recommendation to Owner concerning all proposed substitutions of material and equipment.

(j) Draft, for Owner's consideration, and offer recommendations upon, all proposed change orders and contract modifications.

(k) On application for final payment by the Contractor, make a final inspection of the Project, assembling and delivering to the Owner any written guaranties, instructions manuals, as-built drawings, diagrams and charts required by the contract documents, and issuing a certificate of final completion of the Project.

(l) The Engineer shall, if so provided in the construction contract, be the interpreter of the construction documents and arbiter of claims and disputes thereunder. Upon written request of the Owner or Contractor, the Engineer shall promptly make written interpretations of the contract documents and render written decisions on all claims, disputes and other matters relating to the execution or progress of the work on the Project. The interpretations and decisions of the Engineer shall be final and binding on the Contractor and Owner, unless the Director of the Wastewater Department of the Owner shall, within seven calendar days after receipt of the Engineer's interpretation or decision, file his written objections thereto with the Engineer and Contractor.

II. Construction Management Functions by Engineer.

(a) Perform all duties and functions specifically identified to be performed by the Construction Manager under the terms of the construction contracts, if any.

(b) Provide administrative, management and related services to coordinate scheduled activities and responsibilities of the construction contractors with each other and with the Owner and the Engineer, including monitoring agreed-upon budgets and the Project Schedule based upon the executed Contract Documents.

(c) Schedule and conduct meetings to discuss such matters as procedures, progress and scheduling. Engineer shall prepare and promptly distribute minutes of the meetings to the Owner and Contractors.

(d) Update the Project construction schedule incorporating the activities of the Contractors on the Project, including activity sequences and durations, allocation of labor and materials, processing of shop drawings, product data and samples, and delivery of items requiring long lead time and procurement. The Project construction schedule shall include the Owner's occupancy requirements showing portions of the Project having occupancy priority. Engineer shall update the Project construction schedule as needed to show current conditions. If any update indicates that the previously approved Project construction schedule may not be met, Engineer shall recommend corrective action to Owner.

(e) Consistent with the various bidding and contract documents, coordinate the sequence of construction and assignment of space in areas where contractors are or will be performing work.

(f) Observe performance of the contractors and recommend courses of action to the Owner when requirements of any contract are not being fulfilled.

(g) Monitor the approved estimate of construction cost for the Project, and show actual costs for activities in progress and estimates for uncompleted tasks by way of comparison with approved estimates. Advise the Owner of any variances between actual and estimated costs.

(h) Review the safety programs developed by each of the contractors solely for purpose of coordinating the safety programs with those of the other contractors. Engineer's responsibilities for coordination of safety programs shall not extend to direct control over or charge of the acts or omissions of the contractors, subcontractors or others not directly employed by Engineer, including any health or safety programs and precautions required by such construction work. Engineer has no duty to inspect, observe, correct or report on health or safety deficiencies of the contractors.

(i) Schedule and coordinate the sequence of construction by and among the contractors in accordance with the contract documents and the latest approved Project construction schedule. Engineer's responsibility under this subsection shall not extend to direct control over or charge of the means, methods, techniques, sequences and procedures of any contractor necessary for completing all portions of the construction work in accordance with the contract documents and any compliance with applicable laws and regulations.

(j) Maintain at the Project site for Owner one record copy of all contracts, plans, specifications, addenda, change orders, approved shop drawings, approved product data and approved

submittals, and other documents in good order prepared in part on the basis of information compiled and furnished by others, and record drawings may not always represent the exact location, type of various components or exact manner in which Project was finally constructed, all of which shall be delivered to Owner upon completion of the Project or upon Owner's request. Engineer is not responsible for any errors or omissions in the information from others that are incorporated into the record drawings.

2.6 Additional Responsibilities. This paragraph applies to all phases of Engineer's work.

(a) Engineer shall be responsible for the professional quality, technical accuracy, timely completion and coordination of all of Engineer's work, including that performed by Engineer's consultants, and including designs, Drawings, Specifications, reports and other services, irrespective of Owner's approval or acquiescence in same. Engineer shall, without additional compensation, correct or revise any errors, omissions or other deficiencies in his work in breach of applicable standards of care.

(b) Engineer shall be responsible, in accordance with applicable law, to Owner for all loss or damage to Owner to the extent caused by Engineer's negligent act or omission.

(c) Engineer's professional responsibility shall comply with the generally accepted standard of care applicable to the type of engineering and architectural and construction management services provided in effect at the time services are rendered and commensurate with the size, scope and nature of the Project.

(d) Engineer shall be completely responsible for the safety of Engineer's employees in the execution of work under this Agreement and shall provide all necessary safety equipment for said employees. Notwithstanding the foregoing, Engineer is not responsible for the health and safety duties of others, including compliance with health or safety programs and precautions.

(e) Engineer acknowledges that, due to the nature of engineering and related professional services and the impact of same on the Project, the Owner has a substantial interest in the personnel and consultants to whom Engineer assigns principal responsibility for services performed under this Agreement. Consequently, Engineer represents that Engineer has selected and intends to employ or assign the key personnel and consultants identified in Appendix C - "Identification of Personnel, Subcontractors and Task Responsibility", attached hereto for the Project assignments and areas of responsibility stated therein. Within 10 days of execution of this Agreement, Owner shall have the right to object in writing to employment on the Project of any such key person, consultant or assignment of principal responsibility, in which case Engineer will employ alternate personnel for such function or reassign such responsibility to another to whom Owner has no reasonable objection. Thereafter, Engineer shall not assign or reassign Project work to any person to whom Owner has reasonable objection.

Within 5 days of execution of this Agreement, Engineer shall designate in writing a Project representative who shall have complete authority to bind Engineer, and to whom Owner should address communications.

(f) Promptly after execution of this Agreement and upon receipt of authorization from Owner to proceed, Engineer shall submit to Owner for approval a schedule showing the order in which Engineer proposes to accomplish his work, with dates on which he will commence and complete each major work item. The schedule shall provide for performance of the work in a timely manner so as to not delay Owner's timetable for achievement of interim tasks and final completion of Project work, provided however, the Engineer will not be responsible for delays beyond his control.

(g) Before undertaking any work which Engineer considers beyond or in addition to the scope of work and services which Engineer has contractually agreed to perform under the terms of this Agreement, Engineer shall advise Owner in writing (i) that Engineer considers the work beyond the scope of this Agreement, (ii) the reasons the Engineer believes the out of scope or additional work should be performed, and (iii) a reasonable estimate of the cost of such work. Engineer shall not proceed with such out of scope or additional work until authorized in writing by Owner. The compensation for such authorized work shall be negotiated, but in the event the parties fail to negotiate or are unable to agree as to compensation, then

Engineer shall be compensated for his direct costs and professional time at the rates set forth in Appendix B - "Fee Schedule".

SECTION 3. OWNER'S RESPONSIBILITIES

3.1 Owner shall:

(a) Designate a representative to whom all communications from Engineer shall be directed and who shall have limited administrative authority on behalf of Owner to receive and transmit information and make decisions with respect to Project. Said representative shall not, however, have authority to bind Owner as to matters of legislative or fiscal policy.

(b) Advise Engineer of Owner's Project requirements including: objective, project criteria, use and performance requirements, special considerations, physical limitations, financial constraints, and required construction contract provisions and standards.

(c) Provide Engineer with available information pertinent to the Project including any previous reports, studies or data possessed by Owner which relates to design or construction of the Project. Engineer shall rely on information provided without verification unless otherwise agreed to in Appendix A. Owner shall notify of any known or potential health or safety hazards existing at or near the project site.

(d) Arrange for Engineer to have access to enter private and public property as required for Engineer to perform his services.

(e) Examine all studies, reports, sketches, Drawings, Specifications, proposals and other documents presented by Engineer, and render written decisions pertaining thereto within a reasonable time. The Owner's approval of Drawings, design, Specifications, reports and incidental engineering work or materials furnished hereunder shall not in any way relieve the Engineer of responsibility for the professional adequacy of his work. The Owner's review, approval or acceptance of, or payment for, any of the services shall not be construed to operate as a waiver of any rights under this Agreement or of any cause of action arising out of the performance of this Agreement.

(f) Upon advice of the necessity to do so from Engineer, obtain required approvals and permits for the Project. The Engineer shall provide all supportive documents and exhibits necessary for obtaining said approvals and permits.

(g) Notify Engineer whenever Owner becomes aware of any substantial development or occurrence which materially affects the scope or timing of Engineer's services.

(h) If Engineer's scope of work includes services during construction, Owner will approve acceptable draft language prepared by Engineer for inclusion in Owner's contract with the construction contractor which require the construction contractor to indemnify and hold harmless Engineer, its officers, employees, agents, and consultants against claims, suits, demands, liabilities, losses, damages, and costs, including reasonable attorneys' fees and all other costs of defense, arising out of the performance of the work of the contractor, breach of contract, or willful misconduct of the contractor or its subcontractors, employees, and agents.

Owner will approve acceptable draft language prepared by Engineer for inclusion in Owner's contract with the construction contractor which require (a) the contractor to name Engineer, its directors, officers and employees as additional insureds on the contractor's general liability insurance and/or Owner's and Contractor's Protective policy (OCP), and any builder's risk, or other property insurance purchased by Client or the contractor to protect work in progress or any materials, supplies, or equipment purchased for installation therein; and (b) the contractor to furnish contractor's certificates of insurance evidencing that Engineer, its officers, employees, agents, and consultants are named as additional insureds on contractor's general liability and property insurance applicable to the Project. Contractor's policies shall be primary and

any such insurance carried by the Engineer shall be excess and noncontributory. The certificates shall provide that Engineer be given 30 days' written notice prior to any cancellation thereof.

(i) Owner shall perform its obligations and render decisions within a reasonable time under the presented circumstances. However, given the nature of Owner's internal organization and requirements, a period of 14 days shall be presumed reasonable for any decision not involving policy decision or significant financial impact. A period of 45 days shall be presumed reasonable for Owner to act with respect to any matter involving policy or significant financial impact.

SECTION 4. TIME FOR PERFORMANCE.

Engineer's obligation to render services shall continue for such period of time as may reasonably be required for completion of the work contemplated in Appendix A - Scope of Services and Section 1 of this Agreement.

SECTION 5. PAYMENT.

5.1 Owner will pay to Engineer as full compensation for all services required to be performed by Engineer under this Agreement, except for services for additional work or work beyond the scope of this Agreement, an amount not to exceed \$ 258,217.00 in the aggregate, and not to exceed those maximum amounts set forth in Appendix B - "Fee Schedule" and computed in accordance with this Section. In the event compensation for services is set forth in Appendix B as to each phase of work indicated in Section 1.1 of this Agreement, the maximum amount of compensation for any phase shall not exceed the amount specified in Appendix B for such phase.

5.2 Engineer shall submit periodic, but not more frequently than monthly, applications for payment, aggregating to not more than the maximum amount, for actual professional services rendered and reimbursable expenses incurred. Such applications shall be submitted with appropriate documentation that such services have been performed and expenses incurred. Thereafter, Owner shall pay Engineer for the amount of the application within 30 days of the date of billing, provided that sufficient documentation has been furnished. With respect to construction phase services, Owner will not be required to pay more than 90% of the maximum amount unless the Engineer's services have been completed to Owner's reasonable satisfaction and all required Engineer submittals have been provided.

5.3 The rates of compensation for service and for reimbursable expenses to be used with periodic and final payment applications shall be those set forth in Appendix B - "Fee Schedule."

5.4 No separate or additional payment shall be made for profit, overhead, local telephone expenses, lodging, routine photocopying, computer time, or similar expenses unless otherwise provided and listed in Appendix B - "Fee Schedule."

5.5 No compensation shall be paid to Engineer for services required and expenditures incurred in correcting Engineer's negligent errors or omissions.

5.6 Compensation for authorized work beyond the scope of this Agreement shall be governed by Paragraph 2.6(g).

SECTION 6. TERMINATION.

6.1 The Owner reserves the right to terminate this Agreement and Engineer's performance hereunder, at any time upon 10 days written notice, either for cause or for convenience. Upon such termination, Engineer shall cease all work and stop incurring expenses, and shall promptly deliver to the Owner all data, Drawings, Specifications, reports, estimates, calculations, summaries and all other information, and materials as Engineer may have accumulated in performing this Agreement, together with all finished work and work in progress.

6.2 Upon termination of this Agreement for events or reasons not the fault of Engineer, Engineer shall be paid at the rates specified in Appendix B - "Fee Schedule" for all services rendered and reasonable costs incurred to date of termination; together with any reasonable costs incurred within 10 days of termination provided such latter

costs could not be avoided or were incurred in mitigating loss or expenses to Owner or Engineer. In no event shall payment to Engineer upon termination exceed the maximum compensation provided for complete performance in paragraph 5.1 and Appendix B.

6.3 In the event termination of this Agreement or Engineer's services is for breach of this Agreement by Engineer, or for other fault of Engineer including but not limited to any failure to timely proceed with work, or to pay its employees and consultants, or to perform services with that level of care and skill ordinarily exercised by professional Engineers specializing in the design of Sanitary Sewer Outfalls and Sewer Crossing Design or to perform work in a manner deemed satisfactory by Owner's Director of Public Works, then in that event, Engineer's entire right to compensation shall be limited to payment at the rates specified in Appendix B for services satisfactorily performed and reimbursable expenses reasonably incurred, prior to date of termination.

6.4 Engineer's professional responsibility for his completed work and services shall survive any termination.

SECTION 7. GENERAL PROVISIONS.

7.1 Ownership of Documents. All designs, Drawings, Specifications, technical data, and other documents or instruments procured or produced by the Engineer in the performance of this Agreement ("Work Product") shall be the sole property of the Owner upon payment to Engineer therefore and the Owner is vested with all rights therein of whatever kind and however created, whether created by common law, statutory law, or by equity. The Engineer agrees that the Owner shall have access at all reasonable times to inspect and make copies of all notes, designs, drawings, specifications, and all other technical data pertaining to the work to be performed under this Agreement. In the event Owner uses the designs, Drawings or Specifications provided hereunder for another project independent from Project, without adaptation by Engineer, Owner shall hold harmless and indemnify Engineer from all loss, claims, injury and judgments arising from the use of such designs, Drawings or Specifications for such other project. In no event shall Engineer publish its Work Product developed pursuant to this Agreement except (i) with advance, written consent of Owner, which consent may be granted or withheld in Owner's sole and absolute discretion and (ii) in full compliance with the requirements of this Agreement and applicable federal regulations.

7.2 Insurance and Indemnity.

(a) Engineer agrees that he has procured and will maintain during the term of this Agreement, such insurance as will protect him from claims under workers' compensation acts, claims for damages because of bodily injury including personal injury, sickness or disease or death of any of his employees or of any person other than his employees, and from claims or damages because of injury to or destruction of property including loss of use resulting therefrom; and such insurance will provide for coverage in such amounts as set forth in subparagraph (b).

(b) The minimum insurance coverage which Engineer shall obtain and keep in force is as follows:

(i) Workers' Compensation Insurance complying with statutory requirements in Colorado and in any other state or states where the work is performed. The Workers' Compensation insurance policy shall contain an endorsement waiving subrogation against the Owner.

(ii) Commercial General and Automobile Liability Insurance with limits not less than One Million and No/100 Dollars (\$1,000,000.00) per occurrence for personal injury, including but not limited to death and bodily injury, and One Million Five Hundred Thousand and No/100 Dollars (\$1,500,000.00) for excess umbrella liability.

(iii) Professional Liability Insurance with coverage of not less than \$1,000,000.00 covering claims arising from the negligent acts, errors or omissions in the services performed by Engineer for Owner under this Agreement. This policy shall provide coverage for all professionals providing services under this Agreement by or through the Engineer, including coverage for Engineer's activities performed in both its engineering and construction manager capacities.

(c) Engineer agrees to hold harmless, defend and indemnify Owner from and against any liability to third parties, to the extent caused by the negligent acts, errors or omissions of Engineer, his employees, subcontractors and consultants.

7.3 Notices. Any and all notices or other communications required or permitted by this Agreement or by law to be served on or given to either the Owner or the Engineer by the other party shall be in writing and shall be deemed duly served and given when personally delivered to the party to whom it is directed, or in lieu of such personal service when deposited in the United States mail, first-class postage prepaid, addressed to the Owner, City of Pueblo Department of Wastewater, Attention: Andra Ahrens, Director, 1300 S. Queens Avenue, Pueblo, Colorado 81001., or to the Engineer, Brown and Caldwell, Inc., at the address listed above. Either party may change his address for the purpose of this paragraph by giving written notice of such change to the other party in the manner provided in this paragraph.

7.4 Entire Agreement. This instrument contains the entire agreement between the Owner and the Engineer respecting the Project, and any other written or oral agreement or representation respecting the Project or the duties of either the Owner or the Engineer in relation thereto not expressly set forth in this instrument is null and void. In the event of any conflict between any provision of this Agreement and a provision of any Appendix or attachment to this Agreement, the provision in the Appendix or attachment shall control and supersede the conflicting provision in this Agreement.

7.5 Successors and Assigns. This Agreement shall be binding on the parties hereto and on their partners, heirs, executors, administrators, successors, and assigns; provided, however, that neither this Agreement, nor any part thereof, nor any moneys due or to become due hereunder to the Engineer may be assigned by him without the written consent of the Owner. Notwithstanding the foregoing, if the authorized scope of work includes construction activities or the oversight of construction, Engineer may, at its discretion and upon notice to Owner, assign all of its contractual rights and obligations with respect to such activities or services to Brown and Caldwell Constructors, its wholly owned affiliate.

7.6 Amendments. No amendment to this Agreement shall be made nor be enforceable unless made by written Amendment signed by an authorized representative of Engineer and by Owner's authorized representative.

7.7 Choice of Law. This Agreement shall be governed and interpreted in accordance with the laws of the State of Colorado. Any unresolved dispute arising from or concerning any matter relating to this Agreement shall be decided in a state court of competent jurisdiction located in Pueblo, Colorado.

7.8 Equal Employment Opportunity. In connection with the performance of this Agreement, Engineer shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, disability or age. Engineer shall endeavor to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, national origin, disability or age.

7.9 Severability. If any provision of this Agreement, except for Section 2.6, is determined to be directly contrary to and prohibited by law or the requirements of any federal grant or other Project funding source, then such provision shall be deemed void and the remainder of the Agreement enforced. However, it is the intent of the parties that Section 2 of this Agreement not be severable, and that if any provision of said section be determined to be contrary to law or the terms of any federal grant, then as of the time of any such determination this entire Agreement shall be void and terminated pursuant to the provisions of Section 6, without waiving any claims or defenses

7.10 Appropriations. Subject to execution of this Agreement by the Director of Finance certifying that a balance of appropriation exists and funds are available, the amount of money appropriated for this Agreement is equal to or in excess of the maximum compensation payable hereunder; provided, however, that if construction is phased and subject to annual appropriation, funds only in the amount of initial appropriation are available and Engineer shall confirm availability of funds before proceeding with work exceeding initial and subsequent annual appropriations.

7.11 Additional Requirements on Federally Funded Contracts. If any of the work to be performed by Engineer under this Agreement is funded in whole or in part with federal funds, then this Agreement shall be construed

to include all applicable terms required by the federal assistance agreement and integrated federal regulations. By executing this Agreement, Engineer agrees to be bound by all such mandatory federal requirements. Such requirements shall be provided by Owner and incorporated into individual Agreements as applicable.

7.12 Force Majeure. Neither party shall be responsible for delays caused by circumstances beyond its reasonable control including but not limited to governmental action, statute, ordinance, rule or regulation, strike or other labor troubles, fire, acts of God, or other incidents outside of either party's control that makes performance or acceptance impossible or impractical. The Consultant shall not be liable for any failure of or delay in the performance of this Agreement for the period that such failure or delay is due to causes beyond its reasonable control created from any force majeure event.

SECTION 8. DISPUTES.

8.1 Any unresolved dispute or disagreement between Engineer and Owner arising from or relating to this Agreement or Engineer's services or right to payment hereunder shall be decided in a state court of competent jurisdiction located in Pueblo, Colorado.

SECTION 9. APPENDICES.

9.1 The following Appendices are attached to and made a part of this Agreement:

- Appendix A - Scope of Services and Attachments consisting of 16 pages.
- Appendix B - Fee Schedule and Schedule of Personnel & Duties consisting of 2 (two) pages.

SECTION 10. ACCESSIBILITY.

The Americans with Disabilities Act (ADA) provides that it is a violation of the ADA to design and construct a facility for first occupancy later than January 26, 1993, that does not meet the accessibility and usability requirements of the ADA except where an entity can demonstrate that it is structurally impractical to meet such requirements. The Engineer therefore, will use his or her best reasonable professional efforts in accordance with applicable standards of care to implement applicable ADA requirements and other federal, state and local laws, rules codes, ordinances and regulations as they apply to the Project. Notwithstanding, unless otherwise specified in the Scope of Services, Owner shall have sole responsibility as between Client and Consultant for compliance with the Americans With Disabilities Act ("ADA") 42 U.S.C. 12101 et. Seq. and the related regulations.

SECTION 11 – STATE-IMPOSED MANDATES PROHIBITING WORKERS WITHOUT AUTHORIZATION FROM PERFORMING WORK

(a) At or prior to the time for execution of this Contract, Engineer shall submit to the Purchasing Agent of the City its certification that it does not knowingly employ or contract with a "Worker Without Authorization", as that term is defined within §8-17.5-101 (9), C.R.S. (herein "Worker Without Authorization"), who will perform work under this Contract and that the Engineer will participate in either the "E-Verify Program" created in Public Law 208, 104th Congress, as amended and expanded in Public law 156, 108th Congress, as amended, that is administered by the United States Department of Homeland Security or the "Department Program" established pursuant to section 8-17.5-102(5)(c), C.R.S. that is administered by the Colorado Department of Labor and Employment in order to confirm the employment eligibility of all employees who are newly hired for employment to perform work under this Agreement.

(b) Engineer shall not:

(i) Knowingly employ or contract with a Worker Without Authorization to perform work under this Agreement;

(ii) Enter into a contract with a subcontractor that fails to certify to Engineer that the subcontractor shall not knowingly employ or contract with a Worker Without Authorization to perform work under this Agreement.

(c) The following state-imposed requirements apply to this Agreement:

(i) The Engineer shall have confirmed the employment eligibility of all employees who are newly hired for employment to perform work under this Agreement through participation in either the E-Verify Program or Department Program.

(ii) The Contractor is prohibited from using either the E-Verify Program or Department Program procedures to undertake pre-employment screening of job applicants while this Agreement is being performed.

(iii) If the Engineer obtains actual knowledge that a subcontractor performing work under this contract knowingly employs or contracts with a Worker Without Authorization to perform work under this Agreement, the Engineer shall be required to:

A. Notify the subcontractor and the Purchasing Agent of the City within three (3) days that the Engineer has actual knowledge that the subcontractor is employing or contracting with a Worker Without Authorization; and

B. Terminate the subcontract with the subcontractor if within three (3) days of receiving the notice required pursuant to subparagraph (c)(iii)A. above, the subcontractor does not stop employing or contracting with the Worker Without Authorization ; except that the Engineer shall not terminate the contract with the subcontractor if, during such three (3) days, the subcontractor provides information to establish that the subcontractor has not knowingly employed or contracted with a Worker Without Authorization.

(iv) The Engineer is required to comply with any reasonable request by the Colorado Department of Labor and Employment (hereinafter referred to as "CDLE") made in the course of an investigation that CDLE is undertaking pursuant to its authority under §8-17.5-102(5), C.R.S.

(d) Violation of this Section by the Engineer shall constitute a breach of the agreement and grounds for termination. In the event of such termination, the Engineer shall be liable for City's actual and consequential damages.

(e) Nothing in this Section shall be construed as requiring the Engineer to violate any terms of participation in the E-Verify Program.

SECTION 12. PERA LIABILITY

The Engineer shall reimburse the Owner for the full amount of any employer contribution required to be paid by the Owner to the Public Employees' Retirement Association ("PERA") for salary or other compensation paid to a PERA retiree performing contracted services for the Owner under this Agreement. The Engineer shall fill out the questionnaire attached as Appendix D and submit the completed form to Owner as part of the signed Agreement.

(Signature page follows)

IN WITNESS WHEREOF the parties hereto have made and executed this Agreement as of the day and year first above written.

CITY OF PUEBLO, A MUNICIPAL CORPORATION

BROWN AND CALDWELL, INC.

By _____
Naomi Hedden, Purchasing Director

By _____
Mary Kay Provaznik, Denver Local Leader

Attest _____
City Clerk

[S E A L]

BALANCE OF APPROPRIATION EXISTS FOR THIS CONTRACT AND FUNDS ARE AVAILABLE.

Director of Finance

APPROVED AS TO FORM:

City Attorney

Attachments: Appendix A - Scope of Services and Attachments
 Appendix B - Fee Schedule and Schedule of Personnel & Duties

APPENDIX A

Brown & Caldwell Proposal for: Southern Colorado Clinic Sanitary Sewer Outfall Sewer Crossing Design

Prepared for
City of Pueblo
April 29, 2022



- 1 -

Project Overview

The City of Pueblo (COP) is currently working with a 3rd party consultant, NorthStar Engineering (NorthStar), to design the Southern Colorado Clinic Sanitary Sewer Outfall. The COP is concerned about the currently designed depth of sewer which will increase construction costs due to its depth in bedrock and result in challenging operation and maintenance. The COP has asked Brown and Caldwell (BC) to provide data collection and design services related to an alternative design for four (4) arroyo crossings. This effort is independent of NorthStar's project work and is anticipated to require NorthStar to adjust their design, plans and specifications as necessary to accommodate the Brown and Caldwell arroyo crossings design which will each terminate at the adjacent manholes each side of the arroyo where NorthStar's project will continue.

This document describes BC's scope of engineering and design services for this work.

The work will be divided into two parts, preliminary and final design. Preliminary design will include the following:

- Review Geotechnical Engineering Report, currently ongoing by Terracon Consultants, Inc. (Terracon) (provided under separate contract). Provide additional geotechnical services in the form of laboratory test of rock samples and permitting of monitoring holes to monitoring wells.
- Perform scour analysis and provide a Preliminary Design Letter Report outlining results and design recommendations for minimum depth of sewer bury (bottom of arroyo to top of pipe). Recommendations to include protection measures for sewer pipe below the channel bottom along with backfill and associated armoring requirements.
- Identify necessary permits for the BC responsible sewer design segments of the project and develop a permitting matrix to include a list of agencies/stakeholders, approach and constraints to obtaining permits, and an implementation schedule related to those sewer segments. BC will include applicable permit requirements into the construction contract documents. With assistance of the COP, BC will review requirements with the permitting agencies and draft related permit forms. When required, BC will provide permit forms to COP for execution. Anticipated permits include:
 - Pueblo County Floodplain Development Permit
 - Pueblo County Special Use Permit
 - City of Pueblo P&Z Special Use Permit
 - US Army Corps of Engineering Section 404 – Nationwide Permit 58 and Preconstruction Notification
- Determine suitability of existing mapping/surveying to allow final design to proceed. If this survey is not suitable, BC can, as an option, perform topographical surveying (via a subconsultant) at additional cost unless the COP would prefer to handle the survey separately.
- Coordination with NorthStar to share locations and elevations of sewers at ends of crossing designs to allow NorthStar to update their design to align with the BC designed sewer depths and pipe end points



Final design will include the development of two (2) standalone final design packages as follows:

- **Final Design Package 1 – Southern Colorado Clinic - Sanitary Sewer Outfall - Arroyo Crossing Project:**
 - City is responsible for this project and is hiring BC for design, bid and construction for a segment of sanitary sewer that includes these arroyo crossings.
 - Design of three (3) arroyo crossings. This includes the following two (2) pipe segments:
 - Crossing 2: Approximate Sta. 30+92.54 to Sta. 34+88.15 (As shown in NorthStar Sewer Outfall drawing set)
 - Southern crossing of Wildhorse Creek (just north of junkyard)
 - Crossings 3 & 4: Approximate Sta. 4+60.00 to Sta. 8+80.00 (As shown in NorthStar Sewer Outfall drawing set)
 - Two-pronged tributary of Wildhorse Creek (aka Wildhorse Creek Tributary 2)
- **Final Design Package 2 – Southern Colorado Clinic - Filing No.1 – Wildhorse Creek Crossing Project:**
 - A third-party developer is responsible for design, bid and construction of the proposed sanitary sewer that includes this crossing of Wildhorse Creek. For this project, the City is hiring BC to solely perform geotechnical services, preliminary and final designs for a standalone bid package for a single arroyo crossing. The primary intent of this package is to confirm a reasonable depth for this single arroyo crossing as it may affect down steam system elevations. We understand that the City does not plan to bid this work and therefore does not intend to hire BC for bid or construction related services. We understand this final design package may be shared by the City with an unrelated third-party developer as a reference for potential coordination or modifications to the developer’s own separate system extension design.
 - Design of one (1) pipe arroyo crossing.
 - Crossing 1: Approximate Sta. 42+00.00 to Sta. 46+00.00 (As shown in NorthStar Filing No. 1 drawing set)
 - Northern crossing of Wildhorse Creek (at future Parker Boulevard extension)
- Bid and construction phase services for Final Design Package 1. No bid or construction phase services provided for Final Design Package 2.

This work includes the following phases:

- Phase 100 – Project Management and Administration
- Phase 200 – Preliminary Design Services
- Phase 300 – Final Design Services
- Phase 400 – Bid Phase Services
- Phase 500 – Construction Phase Services
- Phase 600 – Supplemental Services
- Phase 700 – Owner’s Contingency

These phases and their task and activities are described below:

Schedule



Project duration through completion of Final Design is approximately 10-months following notice to proceed. Bid and Construction Phase timeline's have yet to be determined by the COP. BC can provide a schedule for these services once known.

City of Pueblo Responsibilities

The COP will provide available information to aid in the design process. This includes, but is not limited to:

- Existing drawings (PDF and CADD)
- Existing topographic survey data
- Existing geotechnical information/reports
- Existing environmental evaluations/reports
- Knowledgeable staff who can answer BC questions and respond to allow schedule timelines
- Serve to facilitate communications between BC, the COP and Southern Colorado Clinic and their design consultant(s).
- Provide payment for permit applications.
- Provide project site access to BC and their subconsultants
- Provide COP sewer design standards

Phase 100 – Project Management and Administration

Objectives

Project management includes overall tracking and coordination of the project activities. It also includes quality control activities.

Project Management and Administration includes the following tasks and activities:

- Project Management Planning
- Project Control (budget tracking) and Reporting
- Project Meetings and Workshops
- Cost Estimating
- Coordination with NorthStar Engineering
- Project Closeout

1.1 Project Management Planning

The Project Management Plan will document the key project information required by all project team members to assist them in executing the project to meet the required objectives: on time, on budget, with high quality. The key elements of the project plan are described below:

- Scope of work and work breakdown structure
- Project schedule and updates.
- Communications plan
- Risk management plan



- Quality management plan
- Change management process
- Health and safety plan

1.2 Project Control and Reporting

Monthly invoices (assumed -month project duration) will be prepared and submitted to the COP on months when work is completed format.

This task also includes periodic project review by BC management to assure the project is meeting critical success factors, is on schedule, and is within budget.

1.3 Project Meetings

BC will provide a regular forum for the receipt, exchange, response, and documentation of project planning, design, and management related issues and decisions during the project.

This task includes:

- Project Kickoff Meeting
- Design Progress Meetings (assume 1-hour bimonthly, virtual meetings for duration of design phase).
- Miscellaneous meetings and coordination with 3rd party consultant
- Workshops (2 total: Preliminary Design and 75% Final Design) – PM will meet with City staff to review deliverables at the Phase I - Preliminary Design Report Letter and Phase II - 75% Final Design milestones.

1.4 Cost Estimating

This activity includes the development of milestone cost estimates.

Assumptions: COP acknowledges that construction cost estimates, financial analyses and feasibility projections are subject to many influences including, but not limited to, price of labor and materials, unknown or latent conditions of existing equipment or structures, and time or quality of performance by third parties. Such influences may not be precisely forecasted and are beyond the control of BC and that actual costs incurred may vary substantially from the estimates prepared. BC does not warrant or guarantee the accuracy of construction or development cost estimates.

Preliminary Design Opinion of Cost

A Class IV (-30% to +50%) Opinion of Probable Construction Cost (OPCC) will be compiled based on the preliminary design completion level during the Phase I – Preliminary Design Letter Report phase. The OPCC will include a suitable level of contingencies.

Final Design Opinion of Cost

An OPCC will be compiled at both the approximately 75% design and 100% completion levels. This opinion will be a refinement of the preliminary design phase cost opinion and will include suitable level of contingencies. Class III (-20% to +30%) during the 75% and Class II (-15% to +20%) during the 100%.



1.5 Coordination with NorthStar Engineering

This activity includes coordinating with the COP's 3rd party engineering consultant (NorthStar Engineering).

The purpose of the coordination is to convey design points and elements that impact NorthStar's design as well as any changes during bid and construction phases that affect work areas by others. Review of NorthStar's design documents or design documents by others is not included as part of this task.

This task assumes up to six (6) 1-hour meetings with 2-3 BC staff plus additional hours for miscellaneous, informal communications.

1.6 Project Close-Out

During project close-out, BC will resolve final invoices, consolidate and archive project files.

1.7 Deliverables

The following deliverables will be provided as part of this phase:

- Invoices, with update summaries
- Meeting agendas, presentation materials, and minutes
- OPPCs

Phase 200 – Preliminary Design Services

Objectives

This phase provides the background studies and engineering analyses to allow the design to progress. As part of this project BC will provide engineering for the following services:

- Additional geotechnical services and review of Geotechnical Design Report
- Provide engineering analyses including design evaluation and a scour analysis the crossings.
- Identify permit requirements, coordinate with permit agencies, conduct necessary environmental and cultural studies, develop and submit permits required for design.

2.1 Additional Geotechnical Services

Additional geotechnical services to be provided by Terracon as a subconsultant to BC and will include:

- Laboratory testing of rock core sample for unconfined compressive strength
- State permits for monitoring wells (three total)

BC will review the geotechnical engineering report developed by Terracon for purposes of these design services for overall completeness, compatibility, and conformance with the work scope and other contract requirements.

2.2 Permitting

Permitting through local, county, state and federal agencies are anticipated for design locations associated with this scope of work. In addition, field studies are expected to be required elements of some of these permits and approvals as part of this work. BC will provide coordination and assistance



with the permitting planning and design-phase coordination of permits and evaluations only for the design location associated with the services provided herein. Activity under this task will be initiated in preliminary design and continue through final design.

This task includes the following activities:

- Conduct regulatory analysis and prepare a Permitting Matrix that identifies permits, licenses, agreements, and similar approvals required for design and construction of the Project.
- BC will provide services to assist COP with necessary permitting as required by the pipeline work associated with this scope of services only. Such permitting may consist of working with local, state, and federal agencies. Necessary permits for this work may include permits through the United States Corps of Engineers (USACE), United States Fish and Wildlife Service (USFWS), Colorado Department of Health and Environment, Pueblo County, and City of Pueblo.
- BC will coordinate the design documents to include permit requirements and a list of permits required to be obtained by the Contractor will be referenced in the specifications.
- To comply with Section 404 of the Clean Water Act, BC will conduct a stream and wetland delineation for waters of the United States (WOUTS) based on the likelihood of open cut construction through Wildhorse Creek and associated tributary(ies). Based on the project scope being related to water-related linear infrastructure, a Nationwide Permit 58 (NWP 58) will likely be suitable, and each stream crossing can be considered a single project and permitted under a NWP 58. The threshold is ½ acre of jurisdictional waters, and each crossing will need to meet that threshold individually. Per the Colorado Regional Conditions for the Nationwide Permits, a pre-construction notification (PCN) will be submitted to the USACE for authorization of WOTUS impacts. Required components of the PCN include project/applicant details, WOTUS delineation, impacts analysis, avoidance, and minimization discussion, preliminary threatened and endangered (T&E) species analysis and cultural review. *(Please note: If additional T&E or cultural information, surveys, reporting, or coordination is required by the USACE, additional scope and fees will be required.)*
- As part of the Section 404 permitting due diligence, BC has completed a species review using the USFWS Information for Planning and Consultation (IPaC) desktop review for potential Endangered Species Act protected species. Based on this review, the following species were listed as potential for occurrent in the project vicinity – Canada lynx, gray wolf, eastern black rail, green back cutthroat trout, and monarch butterfly. Based on preferred habitat and understanding of where currently, the black rail could have habitat in the project area (but unlikely) and the monarch butterfly habitat (milkweed species) should be assessed during the wetland stream delineation. It is not anticipated that habitat or species are present in the project area, but a field review and concurrence letter to the USFWS should be prepared. This includes the desktop review of habitat preference, field review during wetlands and streams delineation, and preparation of a letter of concurrence to the USFWS of our finding and request they agree not present in the project area. This letter will be included in the PCN for the USACE permit process.
 - *(Please note that our proposal does not include any field surveys for ESA-listed species. These services can be added through amendment as required.)* BC will make recommendations with regards to future permitting based on the required construction and discovery of protected species habitats. If this work triggers a consultation with the USFWS under ESA, this will be specifically communicated to the City.



- Also, as part of the Section 404 permitting due diligence, BC will conduct a desktop evaluation of the Project Area for cultural and historic resources using records and database review from common sources. It is anticipated no resources will be impacted based on this assessment. A concurrence letter will also be sent to the State Historic Preservation Office (SHPO) that will be included in the PCN for the Section 404 permit. *Please note that our proposal does not include any field surveys for cultural or historic resources. These services could be added through amendment as required).*
- Under the Migratory Bird Treaty Act (MBTA) and the Bald Eagles Act, a review of migratory birds associated with the project footprint will be assessed and the observation of active or potentially active raptor nesting sites will be documented during the stream and wetlands delineation. Based on what is noted, the technical specifications for the construction bid documents will be updated to reflect areas to be avoided during specific seasonal windows and activities that shall be implemented to comply with these statutes.
- Finally, during the field surveys, active or previously active prairie dog burrows will be documented. If observed, a western burrowing owl survey will need to be conducted (*Separate scope and fee provided if necessary*). There are regulations requiring buffering the distance of land disturbance during key seasonal windows and/or sequencing construction activities to avoid burrowing owl nesting activities.

Task Assumptions

- If additional T&E or cultural information, surveys, reporting, or coordination is required by the USACE, additional scope and fees will be required
- Proposal does not include any field surveys for ESA-listed species. These services could be added through amendment as required
- Proposal does not include any field surveys for cultural or historic resources. These services could be added through amendment as required.
- CDPHE stormwater and dewatering permits shall be the responsibility of the selected contractor. BC is not providing permit support for these State permits.
- Permitting shall only pertain to the portion of sewer pipeline associated with this scope of services. Permits required beyond these limits shall be the responsibility of others.

2.3 Preliminary Design - Letter Report

The Preliminary Design Letter Report is a narrative description of the design criteria and installation solutions along with final recommendations used in the subsequent design document development, within following phases, to meet the COP's project requirements and objectives. The Letter Report will include the following:

- Identification of technical assumptions made, site requirements, and technical design criteria for use in Final Design.
- Design evaluation and recommendations for improvement of the pipe crossings. This may include shallowing the pipe depth.
- Results and recommendations of scour analysis at each crossing location.
- Permitting matrix to identify necessary permits to be completed during Final Design.



- Preliminary plan and profile drawings
- Expected drawing sheet index and construction specifications table of contents
- Opinion of probable construction cost (OPCC)

2.4 Topographic Survey Evaluation

The COP has existing survey data that is expected to be used and relied upon for the preliminary and final design work. BC will evaluate this information including control points, coordinate system (Colorado State Plane South Zone, NAD 1983 and USGS NVD 1929, feet), utility locations (ASCE 38-02 and SB 18-167; SUE level B), accuracy of data, mapping standards, and other information. Survey must be stamped by a professional surveyor in the state of Colorado.

If this topographic survey is not suitable for the final design, COP, at its option may request that the work be conducted by BC and their subconsultant, Manhard Consulting. Additional fee has been provided for these services. Topographic survey work assumes the City will provide an existing control network and monumentation. Survey will be confined to the existing easement width (assumed at 100 feet) as shown on NorthStar’s drawings and extend to proposed manholes adjacent to the arroyo crossing locations (assumed at 500 feet per design location).

Site Visits

One (1) site visit is included during this phase to visually observe the “arroyo” crossing locations and to coordinate with surveyor.

Workshop

The Engineer will organize and attend one (1) Workshop Review Meeting with COP personnel as part of the Preliminary Letter Report draft deliverable. The workshop is for the following:

- Draft Letter Report submittal - A workshop will be held following the draft Letter Report submittal and sufficient review period (10 business days) by the COP. The purpose of the meeting is to review and resolve comments related to the Letter Report. This meeting is expected to last up to 1 hour and be held virtually in a Teams Meeting. Attendees include the design lead and the project manager.

Deliverables

The following deliverables will be provided as part of this phase:

- Preliminary Design - Letter Report submittal – Electronic copy
- Topographic survey evaluation - letter

Phase 300 – Final Design Services

3.1 Design Development Review (75%)

The 75 percent design effort will proceed following the COP’s approval of the Preliminary Design Letter Report submittal and the associated workshop.



Objectives

Provide 75 percent level design drawings and technical specifications (applicable Divisions 1 through 50), in support of recommendations adopted during preliminary design. Additionally, prepare and coordinate submission of necessary permits.

Activities

Drawings will be provided in two design sets noted previously as Final Design Package 1 and Final Design Package 2.

Beginning and ending point of each crossing design will be to the pipe invert of the adjacent manhole, but exclusive of manhole, included in NorthStar's design. Sewer design upstream and downstream of these locations shall be the responsibility of others. BC will coordinate the connection locations, invert elevations, and details of these points with NorthStar.

Each drawing set will also include details for trench backfill, surface restoration, casings (if required) and other project details (such as in-channel bed protection or modification, if necessary).

BC will coordinate specifications and drawings with the COP and NorthStar. It is expected that BC will provide selected technical specs, separate bid form (summary of quantities), and drawings for each Design Package.

The following items will be provided as part of the 75 percent final design package:

- Select technical specifications (BC Format) – provided electronic only, prior to Workshop (these will depend on the selected pipe crossing alternative). Front end documents to be provided by the COP.
- Plan and profile drawing set. BC will provide to the COP an electronic (PDF) copy of this deliverable prior to Workshop. Includes cover, general, miscellaneous and detail sheets.
- Grading, erosion, and sediment control (GESCC) drawings. BC will provide to the COP an electronic (PDF) copy of this deliverable prior to Workshop
- Opinion of Probable Construction Cost

75 Percent Design Review Workshop: The Engineer will organize and attend one (1) workshop review meeting with COP to review the submittal. The workshop will be held following the draft 75 percent submittal and City review period (10 working days). This meeting is expected to last up to 2 hours and be attended by the pipeline lead and the project manager.

3.2 100 Percent (Bid) Design

Following the 75 Percent Design Review Workshop, the 100 percent design effort will commence.

Objectives

- Comments generated from COPs review of 75 percent deliverable and Design Review Workshop will be addressed.
- Complete Final design and provide stamped design documents (drawings and specifications)



Activities

The following deliverables will be provided as part of this phase:

- 100 Percent Submittal – Select technical specifications sections (BC Format) along with the 100 Percent Final Design (Bid) drawings. BC will provide to the COP an electronic (PDF) copy of this deliverable.
- It is assumed that the COP is providing front-end (Division 0 – Procurement and Contracting Requirements) specifications.

Phase 400 – Bid Phase Services

Objectives

Bid phase services includes the following tasks:

- Contractor Prequalification and Solicitation (Optional Work)
- Addressing bidder questions
- Develop and distribute addenda
- Attendance at pre-bid conference
- Review bid documents and provide recommendation
- Compile and Deliver Issued for Construction Documents

Activities

Contractor Pre-Qualification (Optional Work)

BC will assist the City of Pueblo in advertising for proposals from construction contractors to construct the proposed project by providing an appropriate advertisement for City use. (It is anticipated that the City will cover publication costs required as part of the bidding process.)

BC will assist the City in reviewing the Contractor proposals and will provide the City with a “fact sheet” summarizing the Contractor’s proposals.

Bid Solicitation

BC will assist the City of Pueblo in advertising for bids from construction contractors to construct the proposed project by providing an appropriate advertisement for City use. (It is anticipated that the City will cover publication costs required as part of the bidding process.)

Attendance at Pre-Bid Conference

BC will attend and provide support to City at the Pre-Bid Conference. It is assumed the City will be leading the Pre-Bid Conference.

Bidding Documents

Bidding documents will be obtained by the bidding Contractors from the City website.



Bidder Questions

Answer questions of prospective bidders during the advertisement and bidding period. This includes modifying the questions into a format suitable for inclusion in addendum.

Addenda

Prepare not more than two addenda, as required, to modify or amend the bidding documents as appropriate during the bidding period.

Bid Opening

Bids will be received by the City of Pueblo. BC will not attend the bid opening.

Bidder Evaluation

Review the submitted bids. Brown and Caldwell will assist the City of Pueblo in summarizing results of the review and making a recommendation regarding acceptance of the bid and award of the contract.

Issued for Construction (IFC) Drawings

- Incorporate changes made by addenda and produce a final set of IFC contract documents. Issued for Construction Drawings are to be stamped by a BC Colorado licensed Professional Engineer.

Phase 500 – Construction Phase Services

Objectives

Bid phase services includes the following tasks:

- Attend pre-construction meeting
- Conduct periodic site visits
- Material submittal (and resubmittal) review
- Review and respond to RFIs
- Change Order Assistance

Activities

Upon authorization from the City, Brown and Caldwell will perform the following engineering services related to Final Design Package 1 during construction.

Meetings and On-Site Services

On-site services during construction phase will include attendance at the pre-construction meeting, attendance at two (2) construction progress meetings, and construction observation performed in conjunction with the progress meetings. An additional two (2) site visits are added to this to be used at the request of the City or as needed to support project. It is assumed that a total of no more than four (4) trips to the site will be required (budgeted 8 hours for one person per visit.)



Shop Drawing Submittals

Review shop drawings submitted by the Contractor to assess the conformance of equipment proposed by the Contractor with the design intent of the contract documents and indicate to the Contractor the acceptability of such equipment. It is assumed that ten (10) shop drawings will be reviewed by the Engineer. BC assumes no more than (2) reviews per shop drawing submittal. A total of three (3) hours has been budgeted for review of the initial shop drawing submittal and one (1) hours for review of re-submittals. It is assumed half of initial shop drawings will require resubmittal. BC will maintain a shop drawing submittal log.

Requests for Information

Respond up to four (4) Requests for Information (RFI) submitted by the construction contractor to help clarify the intent of the contract documents. Sixteen hours (16) hours have been allotted for this task. BC will maintain an RFI log.

Change Orders

Provide assistance, where applicable, on reviewing up to one (1) proposed change orders. Assistance can be in the form of collaboration, coordination and minor design alterations, Assist with determination of conformance with the original design intent and cost effectiveness. Sixteen (16) hours have been allotted for this task.

Phase 600 – Supplemental Services (Optional Work)

While the following tasks are not expected to be necessary as part of this scope execution, if desired or beneficial to the project, they can be added as additional/supplemental services. Upon written authorization by Pueblo WW and mutual agreement on scope and fee, BC shall provide these supplemental services as needed for the Design, Construction, and Post Construction phases of this Project. Supplemental services may include any of the following:

6.1 Environmental Permitting Related Field Surveys.

Additional field surveys associated with Task 2.2 that may be required for federal/state permits.

6.2 Decommissioning of Monitoring Wells.

Additional effort by geotechnical subcontractor to decommission monitoring wells in accordance with the Department of Water Resources.

6.3 Owner’s Advisor Services.

Review and comment of design documents by others on behalf of the COP.

6.4 Permitting Support for One Additional Jurisdictional Crossing.

Provide additional permitting support needed to permit one additional USACE jurisdictional crossing. Additional support does not include design of the sewer for the crossing.

6.5 Bid and Construction Phase Services for Final Design Package 2.

Provide bid and construction services similar to Final Design Package 1.



6.6 Unexpected Subsurface Conditions.

Additional design effort to account for unexpected subsurface conditions. May include additional geotechnical investigations as needed

6.7 Differing Conditions During Construction.

Review and analysis of Contractor claims for differing subsurface and physical conditions.

6.8 Additional Site Visits (Construction Phase).

Additional site visits above what has been assumed previously for construction phase services.

6.9 Record Drawings.

Development of record drawings post construction at the request of the City.

Phase 700 – Owner’s Contingency (Optional Work)

Upon written authorization by Pueblo WW and mutual agreement on scope and fee, BC shall provide additional services as required by the project. Contingency services may be required due to unavoidable schedule delays, Contractor performance issues, or other items as authorized by Pueblo WW.



Project Assumptions and Limitations

The following assumptions were made in the development of this Scope of Services:

- Geotechnical data and recommendations are provided for informational use of BC. Should data and reports be used by others, it must be verified (Colorado PE stamped) by the responsible party. BC will be allowed to rely upon this data during the design.
- The design of sewers at the arroyo crossings can be accomplished without the use of deep foundation systems or structural support systems (such as an aerial crossing). These can be added with additional fee, if necessary.
- Topographical Survey: Survey data has been obtained by others for the project areas. However, age and completeness of this data is unknown. Existing survey data will be evaluated by BC for use in development of the final design documents. It is assumed that the existing topographical data is accurate and will not be independently verified if deemed to be complete, reliable and usable for BC final design. However, if this data is determined not to be suitable, additional scope and fee has been included on this scope of services to accomplish this task.
- We are not aware of existing utilities being located in the areas of the arroyo crossings and therefore, no utility test holes (potholes) or SUE level A data is anticipated to be needed for the design. This work is not included and has not been provided for in this scope of services. Should this work be required, BC can provide a scope and fee for these services.
- BC's sewer design alignment (location of the arroyo crossings) will rely on the NorthStar existing design of the Southern Colorado Clinic Sanitary Sewer Outfall for location of the arroyo crossings. Northstar remains the sole engineer in responsible charge for the overall system and layout of the Southern Colorado Clinic Sanitary Sewer Outfall and is solely responsible to meet any and all appropriate Local, State, and Federal codes, standards and regulatory requirements.
- A third-party developer and their engineer of record is responsible for design, bid and construction of the proposed sanitary sewer that includes the Wildhorse Creek crossing (referred to as Final Design Package 2 in the scope of services). For this project, the City is independently hiring BC to solely perform geotechnical services, preliminary and final design for a standalone bid package for a single arroyo crossing. The primary intent of this package is to confirm a reasonable depth for this single arroyo crossing as it may affect downstream system elevations for the Wildhorse Creek Crossing extension section. We understand that the City does not plan to bid BC's design package, therefore does not intend to hire BC for bid or construction related services. We understand this final design package may be shared by the City with an unrelated third-party developer as a reference for potential coordination or modifications to the developer's own separate system extension design. If the City provides BC's design of this single arroyo crossing to the Developer, any use and interpretation of requirements will be at the Developer and their Professional Engineer's own risk. BC will not be contracting separately with the third-party developer or their engineer.
- BC assumes no responsibility for the accuracy, completeness or quality of design work by others to verify connectivity is acceptable. BC assumes no responsibility for delays to BC schedule because of delays by others in making such verifications.
- BC assumes no responsibility for the accuracy, completeness, or quality of design work by third parties. Review and/or recommendations of design work by third parties is not provided for in this scope of services.



- BC assumes project is to be designed and constructed via the open-cut method. Scope excludes tunneling design and associated efforts. Should the project require a trenchless installation, a scope and fee can be developed to provide a tunnel design for the sewer.
- The Preliminary Design Letter Report and other deliverables will be revised once each, pursuant to the COP's comments and suggestions.
- BC assumes sizing of the sewer has been completed and will be provided by the City. BC assumes no hydraulic analysis or sewer modeling, or other means of hydraulic capacity verification is required as part of this project.
- BC assumes the City has obtained adequate permanent and temporary access/construction easements to construct the sewer and complete necessary restoration of arroyos. If additional easement (temporary or permanent) to construct the sewer or perform restoration work, it shall be the responsibility of the City to obtain.
- A design review comment/resolution log will be maintained to capture formally submitted or documented COP comments. Changes resulting from comments will be incorporated to the design documents; however, design will proceed without resubmittal of each design milestone deliverable. The comment log will capture the resolution to each comment and BC will document acceptance from the COP to each item logged and resolved.
- Design drawing format will be 2D in AutoCAD, based upon COP drawing standards, supplemented by BC standards, as required.
- Deliverables will be submitted in electronic PDF format for COP use. No hard copy deliverables are provided. Electronic deliverable formats will be limited to PDF, AutoCAD, MS Word and MS Excel. BC will not provide other electronic formats or any other proprietary or licensed software for use by the COP. No software will be specifically written for this project. Final design phase will not commence until all decisions are final and COP approves the Preliminary Design Letter Report.
- The anticipated project construction mechanism is a conventional design-bid-build. It is assumed that COP will lead the bid phase. Bid phases support services shall be provided for in this scope of work for the three arroyo crossing design package (referred to a Final Design Package 1 in this scope of services).
- This work includes providing design specifications and drawings for two construction contracts. Construction to include only a single contract advertisement. No additive or deductive alternates will be included on the bid form or contract documents.
- No prepurchase of materials or equipment is expected.
- Restoration of site to include seeding and grading. Landscaping or irrigation system is not included.
- Design will be based on federal, state and local codes and standards in effect on the date of the notice to proceed. Any changes to these codes may necessitate a change in scope.
- Investigation and remediation of possible hazardous waste, asbestos, lead paint or other types of contamination is not anticipated to be required. If evidence is observed in the field or other information becomes available to warrant investigations, these can be added as additional services.

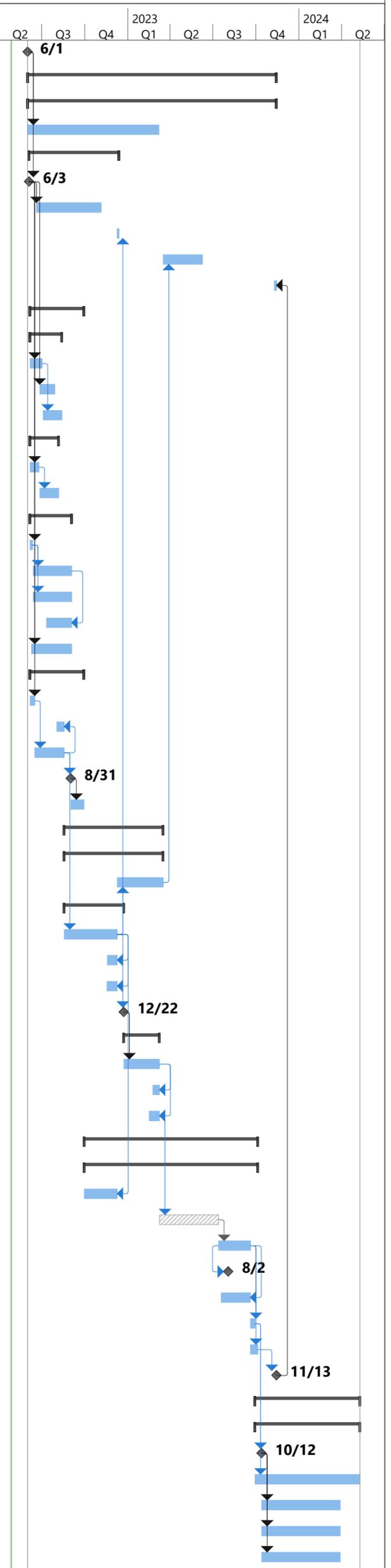


PROJECT SCHEDULE

City of Pueblo

Southern Colorado Clinic - Sanitary Sewer Outfall - Sewer Crossing Design

ID	Phz.Task	Task Name	Duration	Start	Finish	Q2	Q3	Q4	2023	Q1	Q2	Q3	Q4	2024	Q1	Q2
1		Notice to Proceed	0 days	Wed 6/1/22	Wed 6/1/22	6/1										
2	100	100 - Project Management and Administration	379 days	Wed 6/1/22	Mon 11/13/23											
3	100.001	Project Management	379 days	Wed 6/1/22	Mon 11/13/23											
4		Project Control and Reporting	10 mons	Wed 6/1/22	Tue 3/7/23											
5		Project Meetings	136 days	Fri 6/3/22	Mon 12/12/22											
6		Conduct Project Kickoff Meeting	0 days	Fri 6/3/22	Fri 6/3/22	6/3										
7		Biweekly Progress and Miscellaneous Meetings	5 mons	Mon 6/20/22	Fri 11/4/22											
8		Design Workshops	2 days	Fri 12/9/22	Mon 12/12/22											
9		Coordination with NorthStar Engineering	3 mons	Fri 3/17/23	Thu 6/8/23											
10		Project Close-Out	3 days	Thu 11/9/23	Mon 11/13/23											
11	200	200 - Preliminary Design Services	83 days	Mon 6/6/22	Wed 9/28/22											
12	200.001	Geotechnical Field Investigations, Data Collection and R	50 days	Mon 6/6/22	Fri 8/12/22											
13		Additional Testing	20 days	Mon 6/6/22	Fri 7/1/22											
14		Groundwater Monitoring; Well Permits	24 days	Mon 6/27/22	Thu 7/28/22											
15		Geotechnical coordination	30 days	Mon 7/4/22	Fri 8/12/22											
16	200.002	Topographic Survey	45 days	Mon 6/6/22	Fri 8/5/22											
17		Utility Identification and Private Utility Locates	15 days	Mon 6/6/22	Fri 6/24/22											
18		Field Topographic Survey	30 days	Mon 6/27/22	Fri 8/5/22											
19	200.003	Permitting, Environmental and Cultural/Historical Resour	65 days	Mon 6/6/22	Fri 9/2/22											
20		Develop and Maintain Permit Matrix	5 days	Mon 6/6/22	Fri 6/10/22											
21		Coordination with Local, County, & State Permitting Agenc	60 days	Mon 6/13/22	Fri 9/2/22											
22		Coordination with Federal Permitting Agencies	60 days	Mon 6/13/22	Fri 9/2/22											
23		Local, County, & State Permits	40 days	Mon 7/11/22	Fri 9/2/22											
24		USACE Section 404 Permit & Field Surveys	62 days	Thu 6/9/22	Fri 9/2/22											
25	200.004	Preliminary Design Letter Report	83 days	Mon 6/6/22	Wed 9/28/22											
26		Scour Analysis	8 days	Mon 6/6/22	Wed 6/15/22											
27		Opinion of Probable Construction Cost	12 days	Tue 8/2/22	Wed 8/17/22											
28		Draft Development of Letter Report	45 days	Thu 6/16/22	Wed 8/17/22											
29		Review meeting	0 days	Wed 8/31/22	Wed 8/31/22											
30		Final Development of Letter Report	20 days	Thu 9/1/22	Wed 9/28/22											
31	300	300 - Final Design Services	151 days	Thu 8/18/22	Thu 3/16/23											
32	300.001	Final Design	151 days	Thu 8/18/22	Thu 3/16/23											
33		Coordination with Permitting Agencies	70 days	Fri 12/9/22	Thu 3/16/23											
34		Design Development Review	91 days	Thu 8/18/22	Thu 12/22/22											
35		75% Design Drawings	81 days	Thu 8/18/22	Thu 12/8/22											
36		75% Technical Specifications	15 days	Fri 11/18/22	Thu 12/8/22											
37		75% OPCC	16 days	Thu 11/17/22	Thu 12/8/22											
38		Review meeting	0 days	Thu 12/22/22	Thu 12/22/22											
39		Issue for Construction Set	54 days	Fri 12/23/22	Wed 3/8/23											
40		100% Design Drawings	54 days	Fri 12/23/22	Wed 3/8/23											
41		100% Technical Specifications	10 days	Thu 2/23/23	Wed 3/8/23											
42		100% EOPCC	16 days	Wed 2/15/23	Wed 3/8/23											
43	400	400 - Bid Phase Service	264 days	Fri 9/30/22	Wed 10/4/23											
44	400.001	Bid Phase Activities	264 days	Fri 9/30/22	Wed 10/4/23											
45		Contractor Prequalification & Solicitation	50 days	Fri 9/30/22	Thu 12/8/22											
46		PROJECT FLOAT - (Advertisement date selected by City)	90 days	Thu 3/9/23	Wed 7/12/23											
47		Advertisement (by City)	48 days	Thu 7/13/23	Mon 9/18/23											
48		Attend Pre-bid Conference & field walk	0 days	Wed 8/2/23	Wed 8/2/23											
49		Address Bidder Questions & Addenda	44 days	Wed 7/19/23	Mon 9/18/23											
50		Review Bid Documents and Provide Recommendation	8 days	Tue 9/19/23	Thu 9/28/23											
51		Compile and Deliver IFC Documents	12 days	Tue 9/19/23	Wed 10/4/23											
52		Contract Closeout (Design & Bidding)	0 days	Mon 11/13/23	Mon 11/13/23											
53	500	500 - Construction Phase Service (Optional Work)	160 days	Fri 9/29/23	Thu 5/9/24											
54	500.001	Construction Phase (Optional Work)	160 days	Fri 9/29/23	Thu 5/9/24											
55		Attend Pre-Construction Meeting (x2)	0 days	Thu 10/12/23	Thu 10/12/23											
56		Conduct Periodic Site Visits (x8)	8 mons	Fri 9/29/23	Thu 5/9/24											
57		Submittal and Resubmittal Review	6 mons	Fri 10/13/23	Thu 3/28/24											
58		Review and Respond to RFIs	6 mons	Fri 10/13/23	Thu 3/28/24											
59		Change Order Assistance	6 mons	Fri 10/13/23	Thu 3/28/24											



Pueblo, City Dept of Wastewtr (CO) - Wildhorse Creek Crossing Design

Phase	Phase Description	Keil, Kevin A	Lambert, Kell A	Rossillon, Tina	Wieder, Tobin J	Foged, Nathan H	Michalos, Christopher	Pennington, Thomas	Lewallen, Elisa A	Turner, Scott A	Engle, Brandi	DeSouza, Elton G	Wilson, Chandler	Higbee, Scott P	Fulk, Reginald	Pershing, Russell A	Total Labor Hours	Total Labor Effort	Other	Lodging and Food	Other Travel	Total ODCs	Manhard	Terracon	Total Sub Cost	Total Expense Cost	Total Expense Effort	Total Effort	
		PM	PA	Civil Engineer	Project Engineer	Scour QA/QC	Scour SME	Geotech SME	Permitting	Cost Est	Project Asst	Sewer QA/QC	Design Manager	Tech Advisor	CAD Manager	CAD Designer							Cost	Cost					
100	Project Mgmt. and Admin	\$214.00 30	\$101.00 40	\$184.00 4	\$122.00 4	\$240.00 0	\$240.00 8	\$240.00 0	\$143.00 0	\$184.00 0	\$101.00 0	\$240.00 0	\$214.00 74	\$240.00 0	\$143.00 4	\$122.00 4	168	30,500	0	0	0	0	0	0	0	0	0	0	30,500
200	Preliminary Design Services	4	0	16	48	8	52	8	152	12	0	8	38	4	0	20	370	63,372	0	50	170	220	11,500	2,350	13,850	14,070	15,477	78,849	
300	Final Design Services	8	0	64	48	8	32	4	0	18	12	8	36	12	0	118	368	61,328	0	0	0	0	0	0	0	0	0	0	61,328
400	Bid Phase Service	0	0	0	20	0	2	0	0	0	0	0	22	2	0	8	54	9,084	0	50	170	220	0	0	0	220	242	9,326	
500	Construction Phase Service	0	0	8	52	0	20	4	0	0	0	0	36	2	0	2	124	22,004	0	250	850	1,100	0	0	0	1,100	1,210	23,214	
600	Supplemental Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27,273	0	0	27,273	0	0	0	27,273	30,000	30,000	
700	Owner Contingency	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22,727	0	0	22,727	0	0	0	22,727	25,000	25,000	
GRAND TOTAL		42	40	92	172	16	114	16	152	30	12	16	206	20	4	152	1,084	186,288	50,000	350	1,190	51,540	11,500	2,350	13,850	65,390	71,929	258,217	